UK National Screening Committee

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Consultation on the permanent discontinuation of Bowelscope in the English Bowel Screening Programme

Context

A single flexible sigmoidoscopy ("Bowelscope") for those aged 55 was introduced into the Bowel Screening Programme in England in 2013 with an aspiration to achieve complete coverage of the English population by 2016.[1] This had been approved by UK NSC on the basis of evidence from randomised controlled trials, and in particular from the UK Flexible Sigmoidoscopy Screening Trial (UKFSST), which had demonstrated reductions in both disease-specific mortality and incidence[2]. At the time of introduction of Bowelscope, the English screening programme consisted of guaiac faecal occult blood testing (gFOBT) offered biennially to those between the ages of 60 and 74, and, in addition to its proven benefits Bowelscope was seen to be offering an opportunity for people under 60 to engage with bowel screening.

However, full implementation of Bowelscope has proved to be problematic for three main reasons. First, the overall uptake of Bowelscope in England has been reported at around 40%,[3] considerably less than the 70% found in the UKFSST. Personal communication between the UK NSC and the Public Heath England Bowel Cancer Screening Programme team suggests that, with some variation, uptake is now at 45% overall. There is evidence that uptake of Bowelscope is also lower in socioeconomically deprived and black and minority ethnic groups[4]. Second, an analysis of Bowelscope performance indicated that the adenoma detection rate (ADR) in the screening programme did not reach that achieved in the UKFSST in 55-56-year old's (ADR in UKFSST 12.1%, in BCSP 9.2%)[5]. Third, in 2015, the UK NSC approved the use of FIT as the primary screening test for bowel cancer in the UK. This complicated the position of Bowelscope within the English programme.

In 2018 a new recommendation in relation to the NHS Bowel Cancer Screening Programme was made after extensive modelling work carried out by ScHARR with significant stakeholder and academic input into the model. This was to implement a FIT-based programme for those aged 50-74, at as low a threshold as possible (down to 20 μg/ml), to halt the roll out of Bowelscope, consider decommissioning Bowelscope where it had been rolled out when FIT was available to 55- year olds and to carry out research to establish if there was a role for the test within the FIT-based screening programme.[6]

The recommendation was made following a three-month consultation based on the model. Two service options arising from discussions on the model were the focus of the consultation. The options presented for comment were: **A** Combine Bowelscope at trial uptake and quality standards for 58-60-year olds with a lower sensitivity FIT **or B** Offer FIT to 50-74 year- olds with a view to decreasing the threshold and decommission (or not start) Bowelscope. Thirty-six responses were received and the majority of those who stated a preference expressed a preference for option B.

The revised UK NSC recommendations were accepted by ministers:

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https://www.gov.uk/government/news/bowel-screening-to-start-at-50

On July 13th 2020 the Chair of UK NSC received a letter from Professor Stephen Powis, National Medical Director for NHS England to request that UK NSC consider making a recommendation to the Secretary of State that, in line with the position in the rest of the UK, Bowelscope screening be discontinued permanently in England and to note that the UKNSC recommendation to undertake research into combinations of FIT and flexible sigmoidoscopy for screening cannot be supported in England by NHS England. This was based on the following factors:

- Bowelscope is only delivered in England, it has not been delivered in the other devolved administrations.

- In England, to date, Bowelscope has only been rolled out to 60% of GP Practices.

- Since the introduction of FIT testing in England, some providers have experienced uptake and positivity rates much higher than had been planned, and this, as well as a significant improvement in the sensitivity at which a screen positive was defined, has resulted in significant increases in demand for screening colonoscopy. This experience has impacted waiting times, diagnostic testing and consequently overall capacity putting pressure on services.

- Prior to the COVID-19 pandemic, in consultation with all English NHS Bowel Screening Programme Directors, and as part of national operational mitigation measures, English NHS BCSP screening centres took the option to either pause or reduce Bowelscope activity in order to alleviate the demand on pressured services.

  The impact of the COVID-19 pandemic has put further pressure on services and local decisions were made by all NHS service providers to pause the Bowelscope screening element of the NHS BCSP, along with the majority of endoscopy services, since they determined this was an imperative to support the NHS response to COVID and release capacity to manage those with positive FIT results already in the pathway. Those with a positive FIT result are at much higher risk of cancer than the average population so their colonoscopies have been prioritised along with two weeks wait symptomatic referrals. Endoscopy units are not running at usual capacity levels due to infection control requirements. The UK NSC's criterion 18 states that adequate staffing and facilities for testing, diagnosis, treatment and programme management should be available prior to the commencement of the screening programme. Unfortunately, this criterion cannot be met in England. Catching up with the backlog of people with positive FIT results requires significant extra colonoscopy capacity and there is insufficient capacity to recommence Bowelscope Screening in the short term as part of the restoration of NHS BCSP services post COVID-19 or in the longer term as part of expanding the age cohort in the NHS BCSP using FIT to include 50 to 59 year-olds. As the FIT programme expands by adding new age groups and improving the sensitivity of the test the number of colonoscopies increases very quickly. BSS requires around

10,000 follow on colonoscopies per year. If these colonoscopies were used to support FIT this would accelerate the achievement of a larger age extended FIT programme.

- NHS England have presented modelling, done before the pandemic, on the projected numbers of colonoscopies required, to illustrate how released BSS capacity would support the expansion of FIT and release colonoscopy capacity. This analysis showed that based on first expanding the FIT test bowel screening programme to 54 year olds and then extending to 56 and 58 year olds in, the demand for subsequent colonoscopies for bowel screening would rise initially to 72,000 (a 24% increase from the 19/20 level of 58,000 in 19/20) then progressively to 113,000 per annum when FIT age extension is completed, a further 70% growth from the 19/20 baseline. Avoiding the overlapping demand from Bowel Scope of just over 10,000 (based on 19/20 data) would release this capacity, combined with further colonoscopy capacity growth to accommodate the additional demand from FIT expansion.

Considerations

In response to NHS England's request to consider discontinuing Bowelscope, the UK NSC has considered the following points:

- From the evidence supplied by NHS England, there is no doubt that NHS England is assured that endoscopy capacity in the immediate post-COVID phase is insufficient to support both Bowelscope and a FIT-based bowel screening programme. In the longer term this is exacerbated by the ambition in the NHS Long Term Plan and UKNSC recommendation to extend the offer of FIT screening to the 50-74 age range and to markedly improve the sensitivity of the FIT test.

- The 2018 recommendation on the role of FIT and Bowelscope in screening for bowel cancer was informed by the ScHARR disease and cost effectiveness model. This concluded that FIT screening in the 50-74 age range at as low a threshold as possible (down to 20 µg/ml) is the most cost-effective approach. By contrast, the cost effectiveness of Bowelscope was found to be uncertain. For example, only one Bowelscope scenario in the base case analysis was estimated to be cost effective. This was when Bowelscope replaced FIT at age 58 – 59 in the context of two-yearly FIT at a cut off of 161 between the ages of 51 - 65. After this, the possibility of a one off Bowelscope being cost effective within a FIT screening strategy was confined to sensitivity analyses in which key conditions did not reflect current practice. These included a Bowelscope uptake of 55% and a detection rate at UKFSST levels. The uncertainty in this area informed the Committee's emphasis on halting the roll out of Bowelscope and on the need for primary research.

  Uptake of Bowelscope has been reported to be around 40% - 45%.[3] This is at the lower end of the rates reported in two London based feasibility studies[7,8] and considerably lower than the 70% uptake in the UKFSST which demonstrated mortality and incidence reductions.[2] In part this may be due to the fact that the trial was carried out

only in individuals who had already expressed an interest in Bowelscope screening. But more recent UK RCT evidence introduces a new concern about Bowelscope uptake. The English feasibility studies were carried out in 58 – 60 year olds in a setting in which gFOBT screening started at age 60. However, a 2014 – 15 trial in Scotland of Bowelscope at age 60 as an adjunct to the existing gFOBT programme starting at age 50 was only able to achieve an uptake of 17.8%.[9] This suggests that offering Bowelscope to people already served by a stool-based screening test may be associated with even lower levels of uptake than offering it to a screening-naïve population. Restarting a drive to implement Bowelscope in a comparable context may be even more challenging than previously experienced. The Scottish study also reported a marked deprivation gradient with uptake decreasing from 25.7% in the least deprived quintile to 9.2% in the most deprived quintile.

- The UK NSC uses a set of criteria to assess the evidence relating to the effectiveness of programmes[10] based on the criteria of Wilson and Jungner[11]. These criteria provide a framework through which the committee, stakeholders and the public can assess the condition, the test, the programme and implementation. Cost effectiveness, feasibility, capacity and acceptability are crucial to an effective programme and are relevant to the question of Bowelscope:

    a. Criterion 12 states: There should be evidence that the complete screening programme (test, diagnostic procedures, treatment/ intervention) is clinically, socially and ethically acceptable to health professionals and the public.

    b. Criterion 14 states: The opportunity cost of the screening programme (including testing, diagnosis and treatment, administration, training and quality assurance) should be economically balanced in relation to expenditure on medical care as a whole (value for money). Assessment against this criterion should have regard to evidence from cost benefit and/or cost effectiveness analyses and have regard to the effective use of available resource.

    c. Criterion 18 states: Adequate staffing and facilities for testing, diagnosis, treatment and programme management should be available prior to the commencement of the screening programme.

Thus, in the NHS in England, Bowelscope does not demonstrably meet three of the criteria that the UK NSC uses to appraise the viability, effectiveness and appropriateness of a screening programme.[10]

Conclusion

A number of points can be made to conclude the above discussion:

- Sensitive FIT without Bowelscope was found to be a cost-effective strategy. There was uncertainty about the cost effectiveness of Bowelscope when combined with sensitive FIT.

- Because of this the UK NSC developed a cautious approach to Bowelscope when FIT screening at sensitive levels was recommended. This centered on the need to halt the test's roll out and undertake research to establish whether or not Bowelscope remained a useful test within a programme with an improved stool test beginning at an earlier age compared to gFOB screening.
- The restart of the programme following its suspension during the Covid 19 pandemic imposes severe constraints on the available colonoscopy capacity. For example, it is not clear how long the necessary, but capacity limiting, infection control procedures will need to remain in place.
- The 2018 position on Bowelscope therefore needs to be changed to facilitate the restart of the FIT screening programme. This will mean prioritising implementation of sensitive FIT for the foreseeable future.
- The long-term future of flexible sigmoidoscopy is dependent on research. This is not achievable at present and may divert resources which are needed to restart the programme to restart the programme. If the current Bowelscope service is decommissioned it will be more difficult to reinstate in the future for research purposes. However, where a demonstrably cost-effective screening strategy is available, the Committee considers it justified to focus attention on this approach and receive the results of research should this be undertaken at some point in the future.

Proposal

It is therefore proposed that, on the basis of uncertain cost effectiveness and feasibility, practices where Bowelscope has been rolled out should permanently discontinue the test and direct all bowel screening resources to FIT and subsequent colonoscopy.

In accordance with standard procedures, a consultation with stakeholders will take place before this recommendation is submitted to ministers, but in view of the urgency occasioned by the need to restart the programme, this will be an accelerated process, and instead of the usual three months, this will be open over the next 2 weeks.

References

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